# RAM-Cyc™

## 8 Megabyte Memory Expansion

For Apple IIGS series computers

# Owner's Manual

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# RAM-GS Plus™

## Owner's Manual

### First Edition

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*Thank you for purchasing Sequential Systems' RAM-GS plus ™ card. Your satisfaction is important to us, so we offer these three simple assurances:*

**ALL SEQUENTIAL SYSTEMS PRODUCTS** are guaranteed free from defects in materials and workmanship and are warranted for two full years from the date of purchase. Sequential Systems, Inc. will promptly replace any product shown to be defective during this warranty period.

**ALL SEQUENTIAL SYSTEMS PRODUCTS** include FREE technical support.
***1-800-999-1717***

**ALL SEQUENTIAL SYSTEMS PRODUCTS** are designed and built in the U.S.A.

# *RAM-GS plus™* 2. *Description*

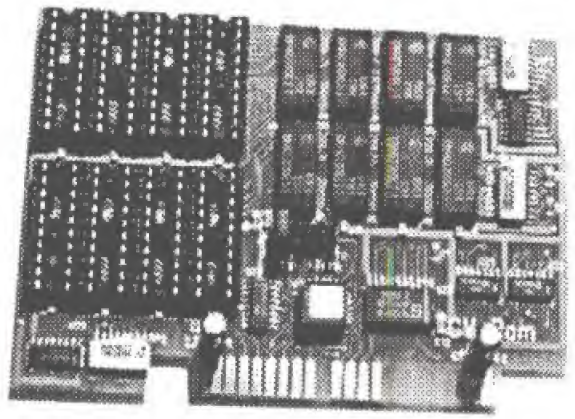
**Sequential Systems' RAM-GS™ card.**

The RAM-GS *plus* is a main-memory expansion board for use with Apple Computer Inc.'s Apple IIGS personal computer. RAM-GS *plus* comes with 4 MegaBytes of standard memory and is expandable to 8 MegaBytes in 1 MegaByte increments. The board is expanded using 1Meg by 4 DRAM's in a DIP package. The printed circuit board is of multi-layer construction with inner power and ground planes for noise immunity. RAM-GS *plus* is fully compatible with all IIGS software and supports high-speed DMA memory access.

## *Package Contents*

**Each RAM-GS *plus* Package should contain:**

1 RAM-GS Memory Board
1 Utilities Diskette
1 Owner's Manual



## *RAM-GS™ Installation* 3.

***BE CAREFUL OF STATIC DISCHARGE!***

Static discharge can damage the memory on your RAM-GS *plus*. Take care to ground yourself before handling the memory board. One way to do this is to touch the small screws on any light switch.

**1.** Place your RAM-GS *plus* in front of you and orient it so that the component side is up and the gold edge connector is toward you. Make sure that the small jumper block in the lower right hand corner of the board is installed correctly. The jumper should be on both pins (connected) for 4 MEG boards and only on one (disconnected) for 2 MEG boards.

***CAUTION! Disconnect power to the computer before proceeding!***

**2.** Remove the cover from your Apple // GS *plus* computer by depressing the two vertical tabs at the rear of the machine and simultaneously lifting the cover upward.

**3.** Locate the connector marked "Memory Expansion" to the right and front on the computer logic board

**4.** Install the RAM-GS *plus* in the expansion slot by aligning the slot with the gold edge connector and gently but firmly pressing the card into the slot. The card should dock with the slot quite easily so do not apply excessive force.

**5.** Replace the cover on your IIGS by aligning the lower, front edge of the cover with the front edge of the computer and pressing the cover downward.

**6.** Reconnect power cord to your Apple-IIGS computer.

**7.** Insert the supplied RAM-GS *plus* Diagnostic Diskette into you 3.5" floppy drive. (If you only have a 5.25" drive call or write Sequential Sytems for replacement.)

***NOTE!***

**8.** Power-ON your computer and "boot" the diagnostic diskette.
**NOTE: For proper operation, you must BOOT the Test Diskette!**

**Installation of your RAM-GS *plus* is now complete. Proceed to Section 4 for a description of the memory diagnostic routines.**

***When all else fails....***
***1-800-999-1717***

# 3. *RAM-GS™ Diagnostic Test Program*

**The RAM-GS Diagnostic Test Program.**

Included with your RAM-GS *plus* is a 3.5" diskette containing a test program capable of diagnosing memory failures should your RAM-GS *plus* fail to function properly. This section describes the use and function of the program.

## *Using the Test Program*

**You must "BOOT" the Test diskette by inserting in the 3.5" drive and turning ON machine power. IF YOU ATTEMPT TO RUN THE SELF TEST FROM THE FINDER YOUR SYSTEM WILL HANG.**

The Main Menu includes the following Items:

1. **Standard Memory Test.**
2. **Memory Refresh Test.**
3. **Unique Address Test.**
4. **Exit to BASIC.**
5. **Exit to System.**

Select a Menu item using the UP & DOWN ARROW keys then execute by pressing "RETURN".

***Standard Memory Test***

The standard memory test will perform basic functionality tests on the RAM-GS *plus* memory. This test has two run modes: **Regular memory test** executes one complete test on the memory. **Extended memory test** executes continuously until interrupted with a keystroke. If a memory error is detected, an "X" will appear over the failed DRAM.

***Memory Refresh Test***

The memory refresh test checks the memory's ability to retain data over longer periods of inactivity. If a memory error is detected, an "X" will appear over the failed DRAM.

***Unique Address Test***

The unique address test checks the memory for "uniqueness" of individual locations. A failure will be indicated with an error message.

***Exit to BASIC***

Selecting "Exit to BASIC" will return control to the BASIC system.

***Exit to System***

Selecting "Exit to System" will return control to the PRODOS operating system.

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